



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,668	03/18/2004	Jianbo Lu	81095818FGT1902	2667
28549	7590	11/20/2006	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034				ARCE DIAZ, MARLON A
ART UNIT		PAPER NUMBER		
		3611		

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/708,668	<b>Applicant(s)</b> LU ET AL.
	<b>Examiner</b> Marlon A. Arce-Diaz	<b>Art Unit</b> 3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 20 August 2006.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-61 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 12-28 is/are allowed.

6)  Claim(s) 1,2,8-10,29,31,32,34,38-44,46,47,49-51,53,55-58 and 60 is/are rejected.

7)  Claim(s) 3-7,11,30,33,35-37,45,48,52,54,59,61 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_  
  
4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## DETAILED ACTION

1. In view of the appeal brief filed on 8/20/06, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:



LESLEY D. MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,8-10,38-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Wessman (US Patent No 6,612,394). Wessman discloses a steering control device

comprising: a steering wheel angle sensor (5), said steering wheel angle sensor also measures the rate of turning of the steering wheel (Col 4, lines 58-60) {{steering wheel angular rate mentioned in claim 1}}, said steering wheel angle sensor also measures the position of the steering wheel {{steering wheel direction mentioned in claim 1}} and the steering wheel angle, Wessman further discloses an ECU (10) that transmits a signal to the brake actuator of the steered wheel on the side of the vehicle toward the inside of the turn, thereby providing brake-steer in order to allow the vehicle to turn in a smaller radius. Regarding claim 2, Wessman further discloses a set of rotation sensors (3,4), said rotation sensors determine whether the car is stationary or moving (it reads the speed of the wheel), said ECU receives the signal from the rotational sensors and the steering wheel angle sensor (5) in order to select the braking force applied to the wheel. Regarding claim 38, the sensor (5) generates a steering signal that enables the ECU to actuation of the brakes. Regarding claim 39, it is inherent to say that in order to activate the parking assist, the driver must operate / press some sort of switch. Regarding claim 41, there are two brake pads in each wheel of a regular car.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 29,31,32,34,38,44,46,47,49-51,53,55-58 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka (US Patent No 6,929,082) in view of Wessman (US Patent No 6,612,394). Kataoka discloses a parking assist apparatus comprising: a target parking position set by the driver of the vehicle, said target parking position is set due to a rear camera (15) a monitor (13), also through a parking assist ECU (1), that collects information from the engine and the brake pedal in order to stop the vehicle; Kataoka's invention automatically adjust the brakes in each wheel when there is an obstacle or a pedestrian in the way of the target parking position. Kataoka fails to show a first positive torque and a second positive torque in order to turn the vehicle. However Wessman discloses a steering control device as mentioned above, Wessman mentions applying a braking force to the inside wheel (during a turn) which in turn would allow the vehicle to turn in a smaller radius. It would have been obvious for someone skilled in the art at the time the invention was made to add a feature to the invention disclosed by Kataoka that would include braking the inside wheel during a turn in order to have a smaller turning radius so the vehicle can be parked easily without the operator depressing the brake. The combination of Kataoka and Wessman would allow the whole parking procedure to be more efficient and automatic while having minimal driver input. Examiner likes to point out that by applying the brake to the inside wheel during a turn, the vehicle applies a first torque to the wheel being braked, and a second greater torque to the outside wheel since it is not being braked. Regarding claim 34, Kataoka discloses activating a parking assist ECU that further activates a brake ECU and a Steering control ECU, said steering control ECU switches the way the steering

mechanism performs. Regarding claim 44, Kataoka discloses a shift sensor (12) that detects a shift state of the transmission. Regarding claim 46 and 55, Wessman discloses rotational / speed sensors (3a,3b) that send a signal to the ECU in order to determine the speed of the vehicle. Regarding claim 49 and 58, it is obvious to say that in order to activate the parking assist, the driver must operate / press some sort of switch. Regarding claim 53, the combination of Kataoka and Wessman enables the vehicle to apply a first torque to the inside wheel while (while is being braked), while applying a second torque to the outside wheel (not braked). Regarding claim 56 and 57, Kataoka further discloses a displacement sensor (43) {{reads the steering angle during the parking assist}} and a wheel speed sensor (32). Regarding claim 60, the braking and steering function disclosed by Wessman is capable of working in a front wheel drive vehicle or in a rear wheel drive vehicle and all rear wheel drive vehicles have a differential.

### ***Allowable Subject Matter***

5. Claims 12-28 are allowed. There was no prior art on the method that selects a parking mode and is able to brake steer (braking and steering at the same moment); examiner likes to point out that the claims are written towards a parking assist device and not a braking and steering (skid steering) while normal driving.

6. Claims 3-7,11,30,33,35-37,45,48,52,54,59 and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Good (US Patent No 4,735,274). Good discloses an automatic parallel parking system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon A. Arce-Diaz whose telephone number is (571) 272-1341. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marlon Arce-Diaz

11/6/06

MAA



LESLEY D. MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600